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PRELIMINARY REPORT CONCERNING THE EFFECTS OF OXYGEN
UPON ANIMAL LIFE.

T. H. DINSMORE, JR., EMPORIA, KAS.

For some time past, doubts have been entertained in the minds of thoughtful scientific workers as to the correctness of the commonly accepted views concerning the effects of oxygen upon animal life. It has been taken for granted (1) that animals placed in oxygen would almost immediately manifest signs of intoxication; (2) that in a very short time death would ensue as a result of abnormal combustion. In experimenting upon this matter we endeavored to find answers to the following questions:

- (1) In case of intoxication, what length of time must elapse before it takes place?
- (2) How soon, if at all, would death ensue?
- (3) Whether the effects would vary with different kinds of animal life?
- (4) Whether new data might be obtained?

In experimenting we used mice and kittens, confining them in large jars of pure oxygen.

RESULTS.

(1) The mice manifested, with the exception of a more rapid breathing, no signs whatever of intoxication.

(2) After remaining in the oxygen an hour they were apparently as well as when first placed in the gas.

(3) The kittens, half-grown, showed no signs of excitement except more rapid breathing.

(4) They were, as a rule, left in the gas from 30 to 60 minutes, but one after an hour and a half was taken out in an unconscious condition.

OUR CONCLUSIONS.

(1) That animals placed in pure oxygen do not become intoxicated within a short time.

(2) That oxygen does not cause death from abnormal combustion.

(3) That the loss of consciousness on the part of one kitten was due more to an excess of carbonic acid and other impurities exhaled from its lungs than to the effects of oxygen.

(4) That all animals when first exposed to pure oxygen will breathe more rapidly until the lungs become accustomed to the new medium. (New.)

(5) That upon different kinds of animal life the effects of oxygen are comparatively the same.

Our experiments will be repeated, and the subject more fully investigated, during the coming year.

MOUNDS IN DAVIS COUNTY.

BY CHAPLAIN JOHN D. PARKER, U.S.A., FORT RILEY.

In Davis county, three miles and a half northwest of Junction City, are four mounds, probably constructed by mound-builders. They are located on a bluff of the Republican river, about one mile south of the river and something more than a hundred feet above the river-bed. The mounds are found on the highest point of the bluff overlooking the Republican valley, which is here about a mile and a half wide. Three of the mounds are in the form of a semi-circle, with its convexity toward the south. The fourth mound is located east of the others, about three

hundred feet from the western mound, and the other mounds in the crescent are about eighty feet apart. The western mound is thirty feet in diameter, and when discovered was three and a half feet in height. The eastern mound is twenty feet in diameter, and when discovered was two feet in height. The other two mounds are twelve feet in diameter, but have been nearly obliterated by the ravages of time, by the burrowing of animals, and by the despoliation of curious people.

These mounds were discovered by John Davis, Esq., of Junction City, who formerly owned the land on which they are located. In the year 1879, he employed a man to open the mounds, who spent several days in exploring them. Selecting the largest mound, he dug a trench from the circumference through the center, carefully removing the dirt and stones, which, without order, were packed together in a mass. The limestones in large number, packed with the dirt, have evidently been taken from a stratum of the same, which outcrops lower down the bluff.

It proved to be a mound of sepulture. The bodies seemed to have been laid on the surface of the ground, without any order, and the mound of mingled dirt and stones raised over them. The mound has been well dug out, and the interior now presents a mass of limestones of all sizes promiscuously thrown upon each other. The stones and some of the bones still retain evidences of heat having been applied when the bodies were buried. The number of teeth found would indicate that perhaps eight persons had been interred. Numerous fragments of the most primitive pottery—apparently urns—were found in the mound. Probably a hundred beads of soft limestone, and of encrinites, were taken from the mound. The teeth found were generally sound; although some were worn to the gums, but one tooth was found decayed. It is almost a certainty that one mound-builder had the toothache. There was one pipe found, in the shape of a double moccasin, three inches in length from toe to toe. The bowl of the pipe was in the center an inch deep. The stem entered at one toe; the other toe had no orifice. This pipe was accidentally broken. Probably a dozen or two arrowheads were found. Some of the bones bore marks of the teeth of wild animals. Possibly a skirmish may have taken place between hostile parties at this point. After the bodies of the slain had lain on the field, and been partly devoured by wild animals, the remains may have been gathered up and buried in these mounds.

RESULTS OF SOME EXPLORATIONS AMONG THE PUEBLO RUINS IN NEW MEXICO.

BY J. R. MEAD, WICHITA.

In western New Mexico, twenty miles north of Grant station, on the Atlantic & Pacific Railroad, there rises to the height of over 11,000 feet the burnt volcanic mountain known to the Mexicans as San Mateo, and to the Americans as Mount Taylor. This mountain is associated with the mythology, traditions and superstitions of the Zunis, the Acomas, the Lagunas and Navajoes, who inhabit the country now, as they did in 1539, when Friar Marcos de Nieza and Stephanus first came to spy out their country. In the apex of this mountain is a natural cavity, in which the pueblo people believe the Deity of rain and thunder resides, for around its peak the clouds first gather which send their life-giving floods into the valleys below; and annually parties from each of the pueblos visit the summit of the mountain, and in the cavity deposit their offerings of meal, beads, and bundles of curiously-ornamented sticks and painted feathers, after which they perform their religious ceremonies with as sincere devotion as their Mexican neighbors kneel before the cross. From the cavity three paths, kept open and clear of leaves and grass, spread out to the southwest like a huge